

New combine concave – a cut above the rest

By Mervyn Balley

An Irish-made concave, claimed to boost harvesting capacity without compromising quality, is being manufactured by harvesting specialist Ken Graham Engineering at Stradbally, County Laois.

"Conventional concaves normally last around 1600 acres before they need to be refurbished so I decided to make a heavier-duty version of my own design," says Mr Graham. "That was in 1998 and I've supplied 250 since then for Claas, Deutz, John Deere and New Holland combines."

The wire thickness and spacing on these high output concaves have been chosen to allow the straw to get to the walkers quicker and the grain and chaff to pass through more easily to the sieves, which reduces the pressure on the drum.

The structure also has a heavier duty frame to withstand difficult harvesting conditions. It weighs around 20 per cent more than a standard unit, using 6mm wires said to be twice as thick as normal and at a wider spacing.

The extra cost of around €300, depending on the size of combine, is paid for through increased output and greater reliability, says Mr Graham.

Users include farmer and contractor Eddie Fitzpatrick, who harvests 500 acres of wheat and barley and has three years' experience of

the concave in a Deutz-Fahr 3610 and 14ft cutterbar at Benfield, County Offaly.

"I used to get the combine's standard concave refurbished every two years but with this one there has been little wear after 1000 acres," says Mr Fitzpatrick.

"There has also been a definite improvement in output of up to 25 per cent compared to the 25 acres/day we normally cover, and no increase in the amount of diesel used."

This extra output is attributed to the crop passing through more easily than with the original concave.

Performance

"Because of the type of sprays we are now using the straw tends to be a lot greener and harder to thresh," he explains. "To get the same amount of performance with the original unit I had to have the concave right up against the drum. With the heavy duty version I can have a more open setting and not smash the straw as much."

Because of its profile, the concave is also reckoned to be less susceptible to stone damage – a big risk when picking-up laid crops with the cutterbar set close to the ground. Added to the stronger build this means the concave should have longer a service life.

Vincent Rooney has the high output concave in a six walker John Deere 1085. He says it has given increased output but also blockages

are no longer a problem. "Damp crops have always posed problems for us, particularly in oats," points out Mr Rooney. "But with the new concave this is not an issue – we did not have any blockages at all last year and the combine ran a lot smoother."

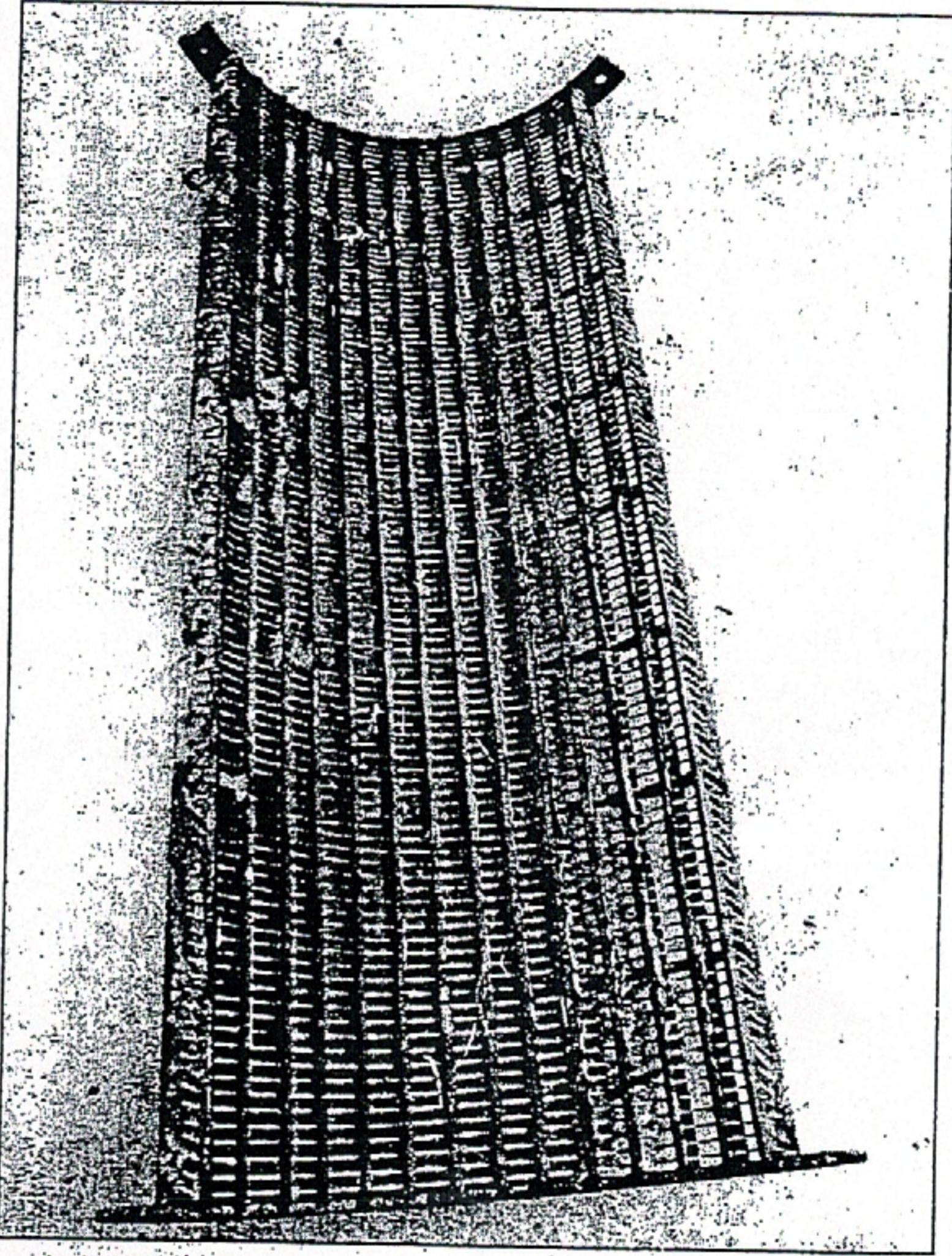
For oats the combine is fitted with a 14ft header, while a 20ft cutterbar is used for barley and wheat. A total area of 300 acres is down to cereals on the all-arable farm near Kells, County Meath.

"Normally we try to find a balance between output and minimal losses," says Mr Rooney. "With the new concave we have managed to increase output by about 10 per cent without increasing losses and the quality of the sample is much improved."

He adds: "The conventional concave was bowing in the middle under the pressure – even after a year and this was why I decided to go for a heavier duty version. Even after a difficult harvest last year the new concave has not lost its shape."

Other manufacturers were consulted on a replacement concave for the John Deere but Ken Graham's version was both cheaper and had users that were pleased with its performance and durability.

"Ken has done a lot of combine repairs for us and always does a thorough job," adds Mr Rooney. "During the harvest he would contact us to make sure everything was satisfactory so we were confident his concave design would be effective."



▲ Blockages are now a thing of the past for farmer Vincent Rooney after fitting the high output concave to his John Deere 1085

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Farmer and contractor Eddie Fitzpatrick reports an output increase of up to 25 per cent thanks to Ken Graham's concave

